SEA-LEVEL RISES: SCIENCE AND MYTH.

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ABSTRACT:

We live in a watery and turbid world where many unpredictable things can happen. It is a feeling shared by some that many scientists are afraid to make waves, afraid to sink established edifices, afraid to burst the dam of conventional models and let the torrents of reality gush through. It appears to some persons that Skepticism, that vital floodgate of any scientific acceptance, has at many points gotten iced for lack of use, and now threatens to stifle and shut off the very free flow of ideas it was originally meant to safeguard. If the stone-builders who have so patiently and glacially built the edifice of modern geology throughout their ``great work of ages`` wanted to leave in the scientific and public mind any idea of dramatic upheavals in the recent past of the Earth instantly discredited as ``Velikovskian catastrophism``, on a par with 7-day yahoo creationism and the Immaculate conception of Mary, they could not have done a better job. The word ``flood``, indeed, has become unmentionable in some professional geological, biological and paleontological circles, almost synonymous with 6400-year-old Earths and the reunification of church and state. The study of the last cosmic seconds of our still so poorly understood planet has become in recent years almost another religion, as gripped by fear, dogma, fiats and taboos as the 17th century Archbishop Usher`s clergy; conceptual advances in the field must be glacially slow or they must not be. Thus spoketh at least our canonized and illuminated Pope from His Harvard Paleontology Chair, *sex dierum interstitiis*, *ex cathedra* and *ex nihilo*. Still, as it has at last dawned on many conservative scientists and the public at large for the past decade, we live in a dangerous solar system, sudden global catastrophes do happen, and comets do really hit planets. The 1994 JPL-released images of comet Shoemaker-Levy, a tiny whitish astronomical mote of dust, dropping its 60,000 mph mega-tonnage hydrogen bombs on the Jovian clouds and setting the giant Odysseus of our Solar System ablaze, are not easy to take off one`s mind. An important barrier, however, remains to be surmounted between the turbid splashy insolence that science was originally meant to be, and the iced, depository and glacially-crawling academic correctness that it has largely become, and this barrier is the barrier of timescales. *Everybody* knows that comets and asteroids do occasionally smash into planets, incinerating in seconds entire phyla into oblivion, flooding whole continents under 1-km-deep supersonic tsunamis, and sending up mountains of soot and other nuclear-winter gloomy nightmares into the stratosphere. The question is not whether this kind of Deep Impact happened in the past on our fragile and tender Earth. The question is when it happened, how often it happened.. .. .., and when it will happen again. Compared to this question, the question of the role that global warming and other ``global`` anthropogenic processes may have played for the past 100 years on the sea-level rises of our orbit-Yo-Yoing 4.5 Billion-year-old planet might just as well have to be put, well, on ice. Sorry, world government folks.

THE MODERN EUSTATIC SEQUENCE STRATIGRAPHICAL APPROACH:

If the Lord Almighty had consulted me before embarking upon Creation, I should have recommended something simpler.

.-Alfonso X, Spanish King and intellectual.

Opening a scientific paper with a historical or religious quote is just one more way of acknowledging that often the only merit of a scientist who imprints society with a certain discovery is the merit of having cleverly found the right footsteps of those who came behind him. Newton walked obscurely on the shoulders of giants (the expression wasn`t even his) before he saw the light.. .. .. reflecting off the curved surface of the apple; the Burgess shale was not struck overnight in a single, defy-your-elderly-graduate-advisor-venerable-opinions, Dead-Poets-Society act of youthful scientific insolence; Einstein basically just added his name to the work of Lorentz and Minkowsky; and, because ours is just wonderful a life to be truthful to any stereotype, nothing is more mythical than the so-called epic of scientific creation.

This is not to say that all geologists are spare oil-drillers who think too slowly to get off their armchair and save the world from impending disaster; only to remark that, after only 0.000002% of the Age of the Earth in which we have been able to significantly alter our planet`s climate with our primitive hunter-gatherer technology, only one thing still stands greater than our anthropocentric ignorance, and this is our anthropocentric arrogance. Humbly, the author, who is not a geologist anymore than he is a preacher, considers that it is about time that we as scientists apologized to the Lord Almighty for having been, as self-appointed kings of creation, so stubbornly arrogant in our beliefs, and in what we *think* we know.

For example.. .. .., the ``modern`` approach to the study of sea-level changes derives directly from an attempt by Exxon oil-drillers to establish a eustatic curve from seismic stratigraphical data on the margins of continents[1)]. The relative sea-level rise for a certain region was ``established`` from the coastal onlap of unconformity-bound sedimentary successions called sequences, and the sea-level fall from the downward shift of this coastal onlap (Vail *et al.* 1977)[1)]. Under the metamorphic pressure of rising criticisms (Miall 1986, Christie-Blick *et al.* 1990)[1)], however, the very authors of this technique later had to admit that the ``saw-toothed curves`` of sea-level rises that they had thus ``established all the way back to the Triassic`` actually reflected coastal overlap instead of sea level.

In a drilling attempt to regain the oily good press, Exxon laid itself out in the next years to compile the best biostratigraphical data it could from both offshore and onshore areas, with emphasis on easily recognizable-outcrop sequences. As a result, the now famous eustatic sea-level curve for the Mesozoic and Cenozoic was obtained (Haq *et al.* 1987)[1)]. But the riverbed was shaky. Carter *et al.* (1991)[2)] pointed out that sequence stratigraphy mixes two measurements in one: sea-level variation across time, and stratigraphical behavior during a single sea-level cycle. And a specially turbid criticism was floated by Miall (1994)[3)], who stressed the incompleteness of the stratigraphical record, pointing out that, although time is continuous, the stratigraphical record is not. Miall further adduced that current geochronological techniques are not up to the level of accuracy of some of

the charts based on them. Kidwell[5] went on to argue that lowstand and sedimentary bypass erosion can cause a break in sedimentation, while in marginal marine environments the main rupture happens during regression: as a result, sequence boundary unconformities can be offset by as much as half a cycle between locations at the margin and center of the basin. Sequence boundaries can thus be mistaken for transgression-wave-erosion-induced ravinement surfaces, or with carved, simple works of submarine erosion.

We don`t frankly know very much about where our seas were in the past.

Still, Vail *et al.*[1] came up with their chart, which plotted a zigzagging variation across deep time with sea-levels rising continuously through the Cambrian, bellying down through relative minimum levels across the Permian/Triassic and up to another maximum at the late Cretaceous. Then, in the midst of the Oligocene, waters suddenly flopped down a full 300 meters in what stratigraphical records cannot tell from an instant, to then recover their former level through the Miocene. This is very interesting as the Encarta Encyclopaedia assures us that ``the climate of the Miocene was cooler than that of the preceding epoch``. Hold on, no, the Miocene, according to the exhibit of the Berkeley Museum of Natural History, was actually characterized by ``a warmer climate`` than precedent geological periods. Well, who knows. In any event, Vail *et al.* also saw a very sharp inverted peak at the Miocene/Pliocene discontinuity, a 200 meter up and down sudden global spasm in what again was stratigraphically indistinguishable from an instant. Those gelid inching Gulf-of-Alaska Miocene-through-Quaternary Ice Age glaciers[6] must have really been splashed.

HYPSOMETRIC APPROACHES

The hypsometry of a land surface is the cumulative areal frequency as a function of altitude: how much of the continent lies below a certain elevation[7]. Typical continental hypsometric distributions have sigmoidal profiles which are convex at low elevations and then become concave at high on through a characteristic inflexion point. The rate of change of elevation with respect to cumulative area is called ``hypsometric slope``, and constitutes an indicator of the likelihood of potential flooding (oops, the unmentionable word) at that elevation. At the inflexion point, the slope is the gentlest and the landmass is most susceptible to flooding. The sigmoidal shape of hypsometric curves comes from the balance between inland erosion and net continent-margin deposition. The inflexion point thus marks the rough transition between the erosional and the depositional regimes[8].

Hypsometric curves can be used to translate marine flooding data to sea-level elevations[1]. Though the time resolution of this technique is not very fine, it is a more reliable method to estimate absolute eustatic elevations than the early seismic/sequence stratigraphic approach pioneered by Vail *et al.* It is in this manner how Hallam[9] drew up his own chart.

An overall tendency of rising sea-levels from beginning of Cambrian to Silurian; majestic decline to Triassic; climb-up to K/T, and general roll-down to the present, with maximum

sea-level differences of 400-600 meters, appears to be confirmed, and might even be close to reality. The new intermediate peaks, however, are different from the early vague outlines of Vail *et al.*

Hallam`s curve begins all the way back at the early Cambrian, where sea-levels were about 100 meters above the present. It follows on with a rather continuous rise in sea-levels all the way to the late Ordovician, where the curve reaches its maximum, 600 meters above present-day sea-level. There the curve rolls down rather gently to its minimum at the beginning of the Triassic, with occasional intermediate flops at the Silurian/Devonian and Devonian/Carboniferous boundaries. Once in the Triassic the plot curves up, with a sudden flop at the Triassic/Jurassic boundary, on through to the late-Cretaceous relative maximum, 400 meters above present-day levels. After the expected paroxysm at the Yucatan K/T boundary, the curve cascades back down, through a 150 meters step flop at the Eocene/Oligocene discontinuity, to the present.

Hallam`s data-collection utilized paleogeographical maps for the United States and the former Soviet Union, and assumed that continental hypsometry had stayed constant throughout time, a rather glacial assumption.

Algeo and Seslavinsky[10)] have later pointed out that continental hypsometry is very related to landmass area, and that therefore one must correct for variable landmass in all hypsometric analyses of flooding records. Congratulations. During the early Paleozoic, indeed, small-size continents were present, much more prone to (the taboo word again), flooding. Their new analysis indicates that the mid-Ordovician maximum might have been only 100 to 225 meters above present-day sea-level.

The difference is enough to cover with water all the buildings of the City of New York, glittery UN included.

THE TURBIDITE PROBLEM

All right, we all know that a geological interval stratigraphically indistinguishable from an instant might very well have lasted 100,000 years, which is 1000 times the optimum life-span of a healthy thoroughbred UN Secretary General, and 10,000 times the period for which, so far, the most humanistic specimens of *Homo sapiens* have been taking the ``problem`` of global warming seriously. And don`t forget Orwell`s dictum about that splashy year of 1984 when Hallam`s geologic-time sea-level chart would then be first communicated to the world: we must always base ourselves on the past to predict the future.

As the Pope says, sedimentary layers form glacially and slowly, over geological periods that dwarf Man`s vain flickering spans of hopes and dreams and worries to utter Lilliputian insignificance. Indeed, we are nothing but mere pebbles splashing on the waters of the incredibly vast cosmic ocean.

Like the turbidites, sandstone beds that can form from turbid underwater currents in a matter of hours[11)].

Turbidity currents can flow down very gentle slopes or even horizontally after they have gained some momentum; in this fashion the currents have carved at river-mouths vast submarine fields of turbidites, fields that can stretch out for thousands of square miles. It is now estimated by some that 12,000 mi^2 at the Mississippi River mouth, 20,000 mi^2 at the Congo River and 8,000 mi^2 at the Hudson River, are covered with turbidites. And so sedimentary deposits formerly interpreted as product of parsimonious, glacial accumulation have now been reconsidered as turbidites; in 1973, Walker[12] called this ``the turbidite revolution``.

In 1988, for example, the seismic stratigraphy of the upper kilometer of sediment in the northern Labrador Sea was determined from the analysis of 26,000 kilometers of seismic profiles. Ten seismic facies were interpreted as the result of slope progradation, turbidite deposition in channels and on the ocean floor, and contourite deposition[13]. The Paleocene to lowermost Eocene Zumaia series, along the Basque coast of northern Spain, was also found to consist of marlstones and limestones with interbedded calcarenite turbidites[14]. Those are just two examples.

Turbidity currents have been modeled in many ways: a method was developed by Kneller *et al.*[15] that predicts facies variation in turbidites where topography has been important during deposition. The chronology of Canadian earthquakes in the recent past has been reconstructed from tsunami and turbidite records[16]. Sediment transport by turbidity currents has been numerically simulated, with special emphasis on hyperpycnal plumes[17]. Properties of the turbidite have thus been found to be strongly related to the duration and hydrograph of the (oops, the unmentionable word again), flood event. During the rising limb of the flood wave, when flow velocities and sediment concentration is high, turbidites tend to be deposited towards the sea. On the falling limb, when flow and sediment concentration decrease, the deposition turns landward.

In 1980, Stow and Bowen[18] found out that the turbidite muds in cores from the outer Scotian continental margin, off eastern Canada, were *single* depositional events, exhibiting a regular decrease in the grain size of their silt laminae. A similar trend was laid bare by both silt and mud layers hundreds of miles downslope. A model was reconstructed in which finer material was sorted out hydraulically to the top and tail regions of a copious turbidity flow. The flow then over-spilled channel banks, after which downslope lateral sorting preferentially deposited bigger mud flocs and coarser silt grains; finally, depositional sorting by increased shear at the boundary layer was responsible for separating the clay flocs from the silt grains. More recently, Zeng and Lowe have determined experimentally that beds formed by experimental high-concentration turbid flows are massive and exhibit coarse-tail grading while beds gouged by low-intensity flows show distribution-grading: their model was tested successfully in Bute inlet, British Columbia[19].

More spectacularly, piston cores from the Balearic and Herodotus Abyssal Plains in the Mediterranean Sea have laid bare that the Late-Pleistocene-to-Holocene (i.e., -12,000 year) sedimentary sequence is dominated by turbidite muds[20]. On each plain, one turbidite bed is notorious by its thickness, and this bed can be correlated across the basin by geochemical similarities and by its apparent seismic correspondence with a pretty

distinct, acoustically transparent, layer. These megabeds on the two plains have been found to be megaturbidites with a size of 300-600 km^3.

The pebbles at the shore of the cosmic ocean have gotten rather voluminous.

THE SUNNY ORBITAL FACTOR

We often forget that the Earth is not a quiet and secure air-conditioned spaceship on a uniform set cruise along High-Way 3, but a defenseless cosmic Yo-Yo tossed to and fro by the unpredictable vagaries of orbital perturbations and chaotic dynamics[21]. All the brute computing power of JPL has so far managed only to back-General-Relativity-integrate the orbital elements of the solar system accurately to 5,000 years BC: a jaw-dropping achievement by Kepler`s standards, but still a far cry from Laplace`s original sick deterministic absolutism. We are led to believe by the military-style-patrolled, two-badges-requiring, SI-units-forgetting, world-public-view-of-the-solar-system-photo-shopping parallel-33-sunned Pasadena government facility that idly ignores records of Pyramids on Mars that all the astronomical records of the Pyramids of Egypt have been checked and found to match the official past extrapolations. If so, this *still* would mean that orbit-wise we are only 100% confident about what happened during the last millionth of the history of the solar system, a mere fleeting second in the drama of the Eons.

Add that to the introductory Hutton chapter of your Evolution textbook.

Recently it was found by a couple of Japanese geologists who have researched sediment cores across the Pacific ocean that the Earth`s geomagnetic field has a quasi-period of 100,000 years, in synchrony with the (current) eccentricity period[22]. This 100,000 year period also matches, of course, the glacial-interglacial cycle of the late Quaternary. The researchers very prudently express their confidence in the Earth`s dynamo`s self-regulatory capabilities, but want to leave the door open to ``an external energy supply of the variation through orbital forcing or climate change``.

The author feels sunny today, and in solacing himself in the memory of his balmy CalTech undergraduate years, he remembers now that the Agape Lodge number 2 of Ordo Templi Orientis in Pasadena, which openly began gnostic masses in the 3rd month of 1933; was at the end of World War II the only lodge of that sort operating in the United States. The author remembers this because this distinguished and inveterate Lodge happened to be first headed by John W. ``Jack`` Parsons (``Belarion``, 1914-1952), an illustrious and respected chemical engineer and aerospace ``pioneer`` who was instrumental, during the day, in founding the Jet Propulsion Laboratory and Aerojet General; and, at night, in promoting ``the book of the Eon``, ``The book of lies``, ``The book of the Law`` and other very illuminating works by O.T.O.`s grand master head and self-confessed active Satanist Aleister Crowley (Oct. 12, 1875 - Dec. 1, 1947), who openly liked to call himself ``Baphomet``. Ordo Templi Orientis officially incorporates the full consummate tradition of the 33 degrees of Freemasonry, as well as of, yes, The Order of the Illuminati, The Order of the Temple, The Order of the Knights of St. John, The Order of the Knights of Malta, The Order of the Knights of the Holy Sepulchre, The Hidden Church of the Holy Grail, The Rosicrucian Order, The Holy Order of Rose Croix

of Heredom, The Order of the Holy Royal Arch of Enoch, The Rite of Memphis (97 degrees), The Rite of Mizraim (90 degrees), The Swedenborgian Rite of Masonry, The Order of the Martinists, The Order of the Sat Bhai, The Hermetic Brotherhood of Light, and, of course, The glorious and maximus Hermetic Order of the Golden Dawn. Some O.T.O. lodges are called with the suggestive and surely only mythological names of Amon-Ra Oasis, Phoenix, Star of ISIS Oasis, Alpha and Omega Oasis, Gnostic Fire Oasis, Serpente et Astrum Camp, Lilith Camp, Knights Templar Oasis, Magick Camp, Scarlet Woman Lodge, (check this out carefully NSS members) Ad Astra Camp, Sekhet-Maat Lodge, Throne of Ra Camp (which Professor Richard Dawkins must surely prefer to any Christian church), Serpentine Splendour Oasis and (for hard-core *2010* fans only) Black Sun Lodge. In fact, it is said that Jack Parsons ``Belarion`` had at some point his high security clearance revoked (twice) by the government because of ``his membership in a religious cult, believed to advocate sexual perversion [and] organized at subject`s home, which had been reported subversive``. The co-founder of JPL, indeed, at some point even is said to have seriously insisted that he was the Antichrist, having come to usher in ``The year of Babalon 4066``: the word of the beast 666 apparently got him off more than any solid-fuel rocket research. Even former JPL researchers paper-clip the origins of the (official) American space program to imported Nazi scientists; what they omit is that Karl Germer, Crowley`s recruiter of apprentices in Germany during Hitler`s days, was confined by the Nazis to a concentration camp for his loyalty to the ``high-grade Freemason Crowley``, and was subsequently rescued by the diplomatic intercession of an American consul and brought to the United States, where he would end up being Crowley`s second-in-command and ultimately his successor at the head of O.T.O.

Are all these sunny contemplative thoughts irrelevant to past sea-level rises in the history of the Earth? Of course, as irrelevant as the fact that the Jet Propulsion Laboratory was founded near Devil`s Gate Dam in Arroyo Seco. If you want to hold up the torrents of reality and dry the public of real scientific knowledge, you`d better build a damn good dam and place some-one you really trust to watch its Gate. Don`t you think so?

Planetary cycles may affect gravitationally the way you are born in a manner negligible compared to the tug of the hospital midwife, but they sure don`t leave a negligible trace on sedimentary rocks. ``The pulse of planetary cycles``, indeed, has been identified, not in the astrological readings of another money-swindling small-time psychic, but deep in a New Jersey shale[23)]. Granted, these cycles are often no more than the Earth`s own: precessional influences[25)] and all that. However, it is funny that the same Earth-Moon tidal periodicities that professional pseudoscientists have so many headaches trying to debunk on women and human beings manage to leave their imprint on sea-wave-splashed rocks. Dr. Allen Archer of Kansas State University has studied such rocks, called tidal rhythmites. Archer has inspected Late Precambrian tidal rhythmites in South Australia[25)], Carboniferous rhythmites in the Eastern Interior Coal Basin[26)], Indiana, and Kansas[27)], and the oldest direct evidence of all of lunar-solar tidal forcing: the Proterozoic sedimentary rhythmites of the Big Cottonwood formation in central Utah[28)]. Even variations in the height of successive spring tides, which are owed to the eccentricity of the Moon`s orbit, can be reliably read off from cyclic rhythmites[29)]. Although in some cases there is some metamorphic overprinting, sedimentary structures are often preserved

in excellent condition, allowing us to read the orbital periods of the Moon back to almost an Eon ago.

Archer`s conclusions are very interesting. In addition to the expected short-term diurnal/semidiurnal periods and longer-term neap-spring tidal periods, some old rhythmites exhibit intermediate periods of roughly 50 hours, which that author agrees are not easily explainable by any known tidal period. The problem is patched up apparently by invoking a basinal resonance, or seiche, whose required depths and widths are estimated from paleogeographic reconstructions of the primordial global paleocean, Panthalassa, which, we are told by the sunny Smithsonian curators of the National Museum of Natural History, surrounded Pangea. Archer infers that at the time of Panthalassa, Pangea and Santa Claus, sorry, Godwanaland, open-ocean tides were about 50% higher than they are today; in a very discreet manner, he refers to ``Milankovitch-type orbital variations`` as the cause of rhythmite-bearing intervals within the Carboniferous strata. These kinds of orbital variations are important in paleoclimatology: less illuminated in conventional geological dissertations is just what produces them, and just *what* they induce[30)].

The conventional Milankovitch theory postulated that gentle periodic changes in the Earth`s orbital eccentricity were responsible for the paleoclimatic record of regular recent Ice Ages; Muller *et al.*, however, prefer to see slight oscillations in the tilt of the orbit with respect to the plane of the solar system as the cause, periodically plunging our planet through tenuous clouds of tiny meteoroids, dust and debris which soot the atmosphere somewhat and induce the Ice Ages. Based on O^{18} geochemical measurements (which only indicate the total fraction of the Earth`s water that is frozen into ice), Muller *et al.* asseverate that the paleoclimatical record matches their new orbital tilting period (which they themselves had calculated) and not Milankovitch`s eccentricity period. Conrado takes notice and will update his creed, but, having been brought up in a galaxy of sparse thin interstellar clouds through which our solar system was supposedly dragged into obscurity every hundred thousand years in its majestically-glacial orbit of the Eons, he feels strongly that he has now a right to be skeptic. We just don`t know what causes the Ice Ages, if they indeed happened as we have been told. We still don`t know what makes our solar system tick.

In fact, for not knowing we don`t even know what makes our own *Earth* tick. It was found in 1994 by conducting a paleomagnetic study of five hemipelagic-clay cores in the West Pacific that our planet`s geomagnetic field cycles by several degrees of amplitude every 40-50 kyr, which is ``close to the Milankovitch frequency associated with the change in obliquity of Earth`s rotational axis``. Indeed the famous Milankovitch obliquity variation cycle is estimated at 41,000 years; but this still does not answer why the Milankovitch and geomagnetic periods are correlated, or why in this study the trace of the last sharp geomagnetic intensity drop at -40 kyr, and the trace of an earlier, somehow broader one at –190 kyr, are accompanied by ``anomalous remanent directions``, which suggest ``short polarity reversals or excursions``[31)].

The author is not criticizing this research, which is honest enough to report a finding whether it fits ``established theory`` or not. The author just would like to bring up the fact that, two years after this finding, *American Scientist* was still feeding the scientifically-

minded general American public the idea that the last geomagnetic pole reversal did not happen any later than 700,000 years ago.

According to Dr. Rong-Sheng Jin, the polarity of the Earth`s magnetic field has reversed 282 times over the past 160 Myr., and, even though the process is clearly related in some intimate way to fluctuations in the Earth`s rotation[32)], a ``satisfactory`` magneto-hydrodynamic model for this periodic internal ``renewal`` process has yet to be found. Narteau, C. *et al.* at the Institut de Physique du Globe de Paris, Paris, France may have just found this mechanism: their multiscale dynamo model, which combines cyclonic turbulence with differential rotation, recovers all ``the general features of the geomagnetic field intensity observed over geological times``[33)]. If this is indeed the case, then Conrado must really take off his hat to these geologists. In their model, the mechanism retains a global magnetic memory except during the excursion and inversion events, when the system is ``reset``. All sounds beautiful and very enlightened; an academic illustration of the Cartesian power of computing reason.

However, less intellectual and perhaps less amply financed Chinese scientists are adamant that the origin of the Earth`s magnetic field still remains one of the most important unsolved problems, not just in geology, but in all of physics in general[34)]. More specifically, Zhu Rixiang, Liu Qingsong and Pan Yongxin of the Chinese Academy of sciences do not mince words and call geomagnetic polarity reversal one of Nature`s ``most enigmatic phenomena``. These researchers openly correlate geomagnetic pole reversals with some major global geological events, including the history of some continental structures in eastern China, even though the authors frankly admit that they are at a loss as to what exactly causes this correlation. Milanovsky *et al.* go further and directly correlate changes in the geomagnetic inversion frequency with eustatic fluctuations in ocean levels, as well as with global phases of compressional and extensional crust deformations[35)]. Anomalous directions in natural remanent magnetization have been found in late Pleistocene marine sediments off the coast of Mauritania, which all fall within the postulated time-spans of the published excursions and events of the geomagnetic field for the past 220 kyr[36)]. In two cases even reversed polarity was reported. In sediments with anomalous directions, magnetic properties are seriously scrambled. Stable oxygen isotope concentrations are also altered notably. The authors speculate that either climatic changes in this case brought about changes in sea-level and ocean circulation that triggered the geomagnetic events (unlikely, given the apparent cold periodicity of these events); or that both the geomagnetic event and the mineralogical/geochemical alterations were induced by a common (unknown) mechanism.

In the obscurantist fashion characteristic of London Royal Society publications, Laj, Kissel *et al.* stack together six paleointensity records from the North Atlantic Ocean and describe the field strength variations for the past 75 kyr[37)]. A first minimum is observed at –65 kyr, followed by a gradual increase to a broad maximum at about –48 kyr (the West Pacific peak?); then comes a rather well-delineated low at –40 kyr. which fits both the West Pacific data and another well-divulged directional anomaly: the Laschamp event. The next low, at –34 kyr., matches the also reported Mono Lake event, and it is succeeded immediately by a –33 kyr high and two lows at -30 and -24 kyr., as the average field intensity rises gently to the upper limit of the whole interval. Then, in a

low-key fashion which is so typical among established, timorous scientists when it comes down to the nitty-gritty, the authors casually dismiss the differences among the six records for the 10-20 kyr. as due to a lack of fine-scale resolution. How convenient when you don`t want to resolve what really happened. Yet in another Royal Society transaction, Selkin *et al.* admit that, based on reliable basaltic grass measurements, the dipole moment of the Earth over the past 300 kyr has almost doubled the average over the preceding 300 Myr., something which the authors partially again put down to the inclusion of ``poor-quality results``.. .. despite the fact that almost half of the data points are concentrated precisely in this last time interval[38)]. The most interesting thing is that this is the only major significant variation in paleointensity that is observed in the whole 300 million year span of the data.

In the glacially-long, deep-Geological-year-stretching history of the universe, sometimes the most exciting things happen in the very last seconds.

And, if the Earth`s geomagnetic field indeed undergoes one of its still-unexplained, sea-level-altering, crust-deforming flips every 41,000 years, then the next flip is scheduled to be.. .. ..

.. .. ..Tomorrow.

A MAMMOTH COVER-UP OR A MAMMOTH SUPERSTITION?

Dr. Wolfgang Berger, director of CalSpace at the Scripps Institute of Oceanography in San Diego, has confessed to the author in a private communication that indeed ``strange resonances`` can be found aplenty in the Earth-Moon-Mars system, and that they emerge in ``odd places`` like turbidites. Dr. Berger apparently has already been berated by some very mathematically-illustrated established sediments of the academia who view his findings of a continental-ice-mass-fluctuation-linked 1470-year climate cycle[39)] as the product of bad data sampling.

All right, so after this warming, desultory prelude let`s get at last to the nitty-gritty.

The mammoths.

The voice of authority in science, namely, *Science*, appears to leave no room for doubt. The 39 ``known`` woolly mammoths that have been struck in Siberian ice chunks with their napkins still on (so to speak), and which were the cornerstone of most modern antediluvian creationist theories, were examined by professionals ice ages ago, and it was found that no catastrophic events are necessary to account for their deaths[40)]. Sudden asphyxiation as by drowning in a lake or bog (in Ice Age Siberia?) does it; Lyell can rest in peace; the drum-beats of superstition can be frozen again, end of the story. Our apologies for this already dealt-with untoward interruption and our assurances that incidents like this will not happen again within the consecrated Ivory walls of this sublime Harvard: you may safely resume your course prefatory homily.

Indeed, Michael Shermer`s Skeptic Army has long ago exposed Duane Gish, who with his Ph.D. in biochemistry must be the greatest threat that ``the secular humanists`` have ever faced and the highest epitome of modern pseudoscientific creationism. Gish has

been caught sternly denying that he had written his gross-scientific-illiteracy-betraying famous comic-style pamphlet *Have You Been Brainwashed?*, which had been published under his own name years before. Joyce Arthur, who wrote the expose, invitingly calls us now scientists and skeptics to study very carefully the argumentative techniques used by Gish and other pseudoscientists to bring gullible people to their camp, because only in this fashion can we forestall their future actions, close once and for all this most unfortunate chapter in the history of education in America that modern creationism has become, end at last this Philistine scourge in the throes of reason, and ``get back to the work of real science``. For, as Dr. Montagu remarked in the very academic year of 1984, demanding equal time in school science classes for evolutionary theory and ``creation science`` is nowadays, for most biologists and geologists, tantamount to requiring that chemistry and alchemy be given equal time[41)].

Or, as the infallible and splendid Dr. Stephen Jay Gould once put it so lapidarily:

> *Flood theory, the centerpiece of modern creationism, was disproved 150 years ago, largely by professional clergymen who were also geologists, exemplary scientists and creationists*[42)].

They were also probably high-level Freemasons who were paid big bucks to do just that, but more on that later.

Let`s go back to hard, accepted, peer-reviewed and therefore infallible science. In 1821, *the American Journal of Science*, in an article penned not by a yahoo backwater Arkansas college teacher but by Benjamin Silliman of the Department of Geology at Yale University, reported that relics of sharks, elephants, hippos, tigers, crocodiles, deer, mammoths and various bovine specimens had been found all piled up in strata, ``in most instances indicating that they were buried by the same catastrophe which destroyed them all``[43)].

Yes, science has progressed a lot since 1821 and it is now ``accepted`` that the Victorian catastrophistic explanations so typical in the 19th century are outdated and have been superseded by the ``modern`` Ice Age theory. And Stephen Jay Gould never claims to be infallible: in fact, if he is characterized by something in his rambling Victorian essays, it is by going to great lengths to show that neither he nor any piece of scientific discovery is.

But, then, when will we know definitively if something is true?

For if we are to accept that *the American Journal of Science* has been the American Journal of *Science* since the beginning, and that therefore the same (agreeably partial) standard of infallibility holds both for its ``modern`` peer-reviewed articles and for its older ones, then the corollary is so simple that even a Turing machine can produce it: namely, that the relics of sharks, elephants, hippos, tigers, crocodiles, deer, mammoths and various bovine specimens that were sighted (or maybe this too was a Dragon-in-the-garage hallucination?) by Yale geologist Benjamin Silliman in 1821 constitute the hard fossil *evidence* that a paroxysmal cataclysm of possibly planetary proportions convulsed the Earth about 12,000 years ago.

All right, skeptic. The author knows your thoughts before you even voice them. You are going to retort that society has ``progressed`` considerably, morally or otherwise, since 1821 when Arkansas was not even a full-fledged state of the Union, and that the Victorian fundamentalist religious strictures of that time no longer condition peer-reviewers today. After all, those were the glorious times of one nation under God when the daily newspaper opened every week with the full text of the previous Sunday`s sermon. You may even add, like the sneaky Gould did again in 1984[44)], the clever tactical remark that the early biblical catastrophists have been underrated as scientists and were certainly much more careful and empirical in the treatment of data than Lyell and the uniformitarians: an astute concession to the opponent design to put his expectant, unbiased-thought-seeking audience in your bandwagon. And, if you are well-trained and professional enough at the job, you may even prostrate them all down by definitively glossing the threat away with the intellectual flourish that, after all, and unlike religion and its various unrepentant antediluvian pseudoscientific masks, real science never pretends to be The Truth, but only a human and fallible construct that humbly puts forward provisional, tentative interpretations which can then be superseded with time if better, but always empirically falsifiable, hypotheses, arise.

How erudite, how humane, how learned, how polymathic: you are a real Popper basher. The master of the demon haunted world is really proud of you.

Now let`s see if, in addition to reciting philosophy of science, you can also think Science.

Suppose that peer-reviewed science only produces, with a degree of reliability $r<1$, tentative conclusions that only remain in vigor until a better falsifiable hypothesis replaces them. If no better falsifiable hypothesis ever replaces them, then the tentative conclusions happen to be true, against our original assumption. If a better falsifiable hypothesis indeed arises that supplants those initial, tentative conclusions, then it follows that we have known conclusively that the falsifiable hypothesis in question was better than the original, tentative conclusions, and that, therefore, we have produced a scientific statement, namely, that the falsifiable hypothesis in question was better than the original, tentative conclusions, with reliability $r=1$, again against our original assumption.

Therefore, peer-reviewed science *can* produce statements with a degree of reliability $r=1$.

Therefore, peer-reviewed science can *only* produce statements with a degree of reliability $r=1$.

Therefore peer-reviewed science is infallible.

Therefore Stephen Jay Gould is infallible, QED.

Now, if you dear fellow skeptic have been Turing machine enough to follow me until now, you should also be able to follow me through to the first corollary of Conrado`s theorem, which exposes the mythical ``scientific method of Popper`` as the monumental trick on the human mind it really is.

Corollary 1: The relics of sharks, elephants, hippos, tigers, crocodiles, deer, mammoths and various bovine specimens that were sighted (or maybe this too was a Dragon-in-the-garage hallucination?) by Yale geologist Benjamin Silliman in 1821 constitute the hard

fossil *evidence* that a paroxysmal cataclysm of possibly planetary proportions convulsed the Earth about 12,000 years ago.

Proof: Benjamin Silliman managed to have his sighting published in the peer-reviewed American Journal of Science. Therefore it must be true, QED.

This is nothing but the logic of scientific discovery, pure and simple.

And please note that the author is not attacking Popper, who actually was the first to admit that the logic of scientific discovery through falsifiable hypotheses cannot be applied to the falsifying test itself. The author is not attacking Science with capital ``S``, if such capital ``S`` Science really exists. The author is not attacking science: the author is only attacking myth, pseudoscience in America, and perhaps *The American Journal of Science*. And the physical and logical laws through which we can expose these doggedly-recalcitrant Philistine scourges in our midst are universal and constant through time, and therefore apply equally well in 1821 as in the present. What was science then is science now, regardless of the general social attitudes towards religion, the local newspaper`s preacher predilections, and the lunch that the kids brought to Sunday school.

As a scientist, the author feels much better now, thank you.

So, reassured now that the Pope is indeed infallible, we can go on and safely quote Stephen Jay Gould again:

> *Lyell won with rhetoric what he could not carry with data*[44)].

Not crystalline enough?

> [Rigid gradualistic uniformitarianism] .. .. *has had a profoundly negative impact by stifling hypotheses and by closing the minds of a profession towards reasonable empirical alternatives to the dogma of gradualism*[44)].

Of course the idea that the whole Earth was convulsed and flooded in minutes by a global-tsunami-inducing meteoric Deep Impact about 12,000 years ago is *not* ``reasonable``; because the Lyells and the Bucklands and the Huttons and the Humboldts and the Agassizs of the 19th century performed their mass mind-control magic so well and managed to solder this idea with religion early in the public mind. And, as a former JPL director desultorily confessed once to the author in private with a malicious smile on his white Martian face: once an idea has been washed away from the public mind, it *stays* away.

This is specially true if the Discovery-channel-believing scientific public does not bother to read the original writings of the scientists who can thus so easily build myths of lasting, glacial duration. For example, in his *Journal of Researches*, Charles Darwin wrote with gelid awe about the mute devastation that he was seeing fossilized all over the American continent:

> *The mind is at first irresistibly hurried into the belief that some great catastrophe has occurred. Thus, to destroy animals both large and small in South Patagonia, in Brazil, in the Cordillera, in*

> *North America up the Behring Straits, we must shake the entire framework of the globe. Certainly no fact in the long history of the world is so startling as the wide extermination of its inhabitants*[45)].

Of course the clever magician of words and conjurer of primate fears Darwin would later on go to great verbose lengths to mind-control the whole 19th, 20th and 21st century scientific audience into believing that the first, spontaneous, natural impression that comes to mind in the face of evidence like that must be rejected because it does not fit in with the ``theory`` that he wants to install. And, yes, the Darwins, like James Watt and other distinguished founding luminaries of ``modern science``, were well-known regulars at the monthly midnight rituals of the ``influential`` Lunar Society of Birmingham[46)], in which traditional moon-goddess-invocations and other surely only mythological allegories were enacted. As the author`s current graduate Evolution instructor remarked with surprising candidness during a class: ``That`s where the term lunatic comes from``. Indeed that is where the term lunatic comes from, but Darwin and the other Great Architects of so-called ``modern science`` were not lunatics. They knew exactly what they were doing.

Darwin`s contemporary and official Evolutionary Theory cincher Sir Alfred Russell Wallace, who was also for some time heavily into spiritualism[47)] before he definitively sealed his knowledge into the silent inveterate archives of the Royal Society, wrote in 1876:

> *We live in a zoologically impoverished world, from which all the hugest and fiercest, and strangest forms have recently disappeared.. .. .. Yet it is surely a marvelous fact, and one that has hardly been sufficiently dwelt upon, this sudden dying out of so many large mammalia not in one place only but over half the land surface of the globe.. ..*
>
> *There must have been some physical cause for this great change, and it must have been a cause capable of acting almost simultaneously over large portions of the Earth`s surface*[48)].

The last de-glaciation must have been a real ice-breaker. It is estimated in the technical literature that the Laurentide and Fennoscandian ice sheets just before the Pleistocene/Holocene boundary were 3-4 kilometers thick[1)]. Over 50 million cubic kilometers of water must have evaporated up from the oceans in order to form them. It is reported that mountain glaciers crawled, mute and Titanic, as close to the equator as New Guinea and Hawaii[1)]. The interior East Antarctic ice sheet towered, gelid and callous, half a kilometer above the present level[1)]. For a mere teeny-weeny tilting of the Earth`s axis, or change in orbital obliquity, or change of orbital inclination, or passage through an interstellar cloud, that is quite impressive.

The main phase of deglaciation is said to have commenced at -13,000 years; ^{14}C analyses hint at possible, sporadic, gushing outflows of North Pacific deep water during the early stages[1)]. The accepted dogma features an abrupt, splashing warming at -13,000 years followed by a ``climate reversal`` at -11,000 years and then another sudden ``global

warming`` at -10,000 years[1)]. It is said that the remainders of the leviathan snowy Laurentide ice sheet melted away from Hudson strait and Hudson Bay 8,000 years ago[1)].

But it is recognized that, in many regions, the first, cracking, ice-breaking stage of the deglaciation was ``both abrupt and very large``: North Atlantic polar front ^{14}C chronologies compact the critical events to a mere 200-300 years[1)]. Fastidious fossilized Coleoptera from the British isles indicate that temperatures 12,000 years ago were clearly as warm as the present[1)]. This is confirmed from Greenland $\delta^{18}O$ records[1)]. Traditional literature copes with all these dangerous, ice-dam-destabilizing peer-reviewed findings by postulating that some mild, tepid amount of global warming was already underway from as early as -15,000 years, in flagrant incongruity with the doctrine that the first stage of deglaciation hit abruptly and substantially later[1)]. Indeed, the authors of a standard reference text on paleoclimatology agree that the necessitated ``large`` extent of the early global warming puts ``severe constraints`` on the mechanisms of deglaciation, for it is still maintained (?!) that much of the mythical gargantuan Fennoscandian and Laurentide ice sheets were still present crushing the continents, and therefore ``albedo reductions could not have taken place``[1)]. Broecker has even conjectured that the required ``rapid changes`` in global climate at the end of the Pleistocene could ``best be explained`` by an ``abrupt`` shift in ocean-atmosphere circulation[1)]. Quaternary research can be honest sometimes.

There is some partial evidence that tropical lowlands were drier during the last glacial maximum, with water levels almost half a kilometer below the present in some of the voluminous Eastern lofty African lakes[1)]. Sand dunes reportedly skirted in Sub-Saharan and Central American regions (.. ..) [1)]. What is now the lush and exuberant Amazon rainforest would have been shrunk to a few localized areas of increased rainfall, according to delicate butterfly studies of woody angiosperms[1)]. Moist, rain-graced regions would have been swarmed with a ``high diversity`` of species, while the lower-diversity areas would have been more savannah-like and ecologically-incorrect[1)]. Precipitation may have been 50% lower than present in polar regions[1)]. Lakes would have ponded everywhere by a combination of magnified sprinkling rainfall, reduced evaporation, meltwater-runoff of natural riverine and lacustrine drainage systems, and other factors. To account for the documented Pleistocene lake level changes in the western United States, however, a 2.4 times precipitation increase and a 5-7 ^{o}C temperature drop compared to the present would have been required. Ice-age dryness appears to be consistent with a copious, systematic transfer of carbon from terrestrial to marine reservoirs: the amount of carbon transferred during the glacial-interglacial equals roughly one third of the total amount of carbon sequestered in vegetal, soil and continental reservoirs. Surface albedo actually increased from 0.14 to 0.22. Also, the global increase in aridity is consistent with the rise in atmospheric dust concentrations attested by the wind-blasted eolian sediments in equatorial Atlantic deep-sea and Greenland/Antarctic ice cores[1)].

Many records seem to indicate a notoriously frigid and dried climate in areas adjacent to the mammoth ice sheets. The European and North American tundra seemingly stretched southward from the ice margins. The North American continent was also diademed with a wintry boreal spruce-pine forest. Oak-hickory forests, low lakes and prairies extended south of the polar front. In Europe, polar deserts spread out in the region between the

southern tip of the legendary Fennoscandian ice sheet and the northern margin of the aggrandized, mulish Alpine glaciers, and were populated by reindeer, Arctic foxes, and all the usual Museum of Natural History stamps, including, of course, the pensive and crestfallen Swiss Bank Mammoth. Windblown eolian deposits lay scattered farther east from the dry xerophilous steppe European plains to central China. The steppe belt in question may have actually carried on through Siberia to Alaska: this corridor is notorious for its many large-sized vertebrate fossils, like bison, elk, horses, and, yes, mammoths[1)]. Of course, that nefarious and baleful specimen called *Homo sapiens* in the end hunted them all to extinction with his environmentally-malign tundra-improvised slain animal furs and his paleolithic tools of mass-destruction.

Greenland and Antarctic ice cores put the CO_2 glacial concentrations at 200 ppm, a full 80 ppm lower than the (estimated) pre-industrial mark. With the exception of the usual shilly-shally midget fluctuations, which are typically attributed to variations in marine biological productivity, CO_2 levels stay basically frozen in the Byrd ice core for the whole glacial wintry epoch between -25,000 and -15,000 years ago. Then the mixing ratios jump in one breath to essentially the accepted global pre-industrial values at -11,000 years[1)]. In between, the records are ``missing``. The Freemason Admiral would be proud.

But it is useless to try to dabble any more in the antediluvian de-glaciation/Flood ``controversy``. Much better and well-mannered geologists than the author have fought all their lives against the Mammoth of uniformitarianism and lost. They have thrown everything they could at the Mammoth: tusks, loam, gravel, bones, boulders, the whole of Siberia. Nothing works. Their efforts have been as futile as those that bow-legged hairy australopithecine primates would engage in if suddenly invaded in their territory by a seamless alien monolith they did not welcome.

The academic dialogue is, indeed, as old as Lucy:

> *You know, the Ice Age never happened*
>
> *Oh, come on, here comes another one of those. I have heard them all. Where is the new evidence?*
>
> > *Well.. .. .., you know those suddenly-killed mammoths they have found in Siberia.. .. .. [there are whole continents of evidence, but when pressed and mocked by one of those professional humanists who call themselves ``skeptics`` somehow only the word ``mammoth`` seems to come up]*
>
> *Ah.. .. .. another one who has fallen for the mammoth superstition. Look, I gotta go. I suggest you subscribe to* Science. [Pat on the back] *The thirty-something mammoths you talk about were disproved as evidence of any Flood decades ago*. [Paternal grin].

And so the Mammoth goes on, after waving aside the low-fly, basically untouched. It goes on untouched because the low-fly in question forgot that David did not smite Goliath (of course only in myth), by brute force. He smote the Mammoth bully just with one humble, childish, and oh-so-classy, slingshot stroke. Straight between the eyes. The

skeptic forgot that the ``skeptic`` wants to draw the ``controversy`` to the territory of evidence because it is this territory that the ``skeptic`` controls, lock, stock and barrel. The ``skeptic`` controls what something is ``evidence`` of and what it isn`t. The ``skeptic`` controls what gets published in *Science* and what doesn`t. The ``skeptic`` controls what is ``science`` and what isn`t.

At some point a bunch of creationists were pressed by the Mammoth bullies of humanism to produce a *single* piece of evidence for their ``flood theory`` that had been accepted by a ``respected`` ``scientific`` journal. Not surprisingly, they are unable to do so. Own the word ``science`` and you will own the thoughts of scientists. Copyright all pictures of reality and you will have copyrighted all descriptions of reality. Write the dictionary and you will write the words. The Great Architects of Ages have had the best scientific minds, the funding of the most magnanimous and well-heeled bankers and philanthropists, and all the time at their disposal for hundreds of years to build the Great Lie of Ages, and pin the name ``science`` on its facade. A real scientist has only a few minutes in a classroom and a borrowed computer without Photoshop to demolish it.

So let`s demolish it.

In 1962 Harold Lippman[49)] opened fire with the first truly gelid Ice-Age-skeptic reply that managed to crack its way into *Science*. Farrand, the author of the original famous mammoth-Sudden-Death-``debunking`` piece, had to quite defensively resort to sarcasm to counter it[50)].

Interestingly, Dr. Farrand recently sent an e-mail to the author Conrado that said:

It is good to be skeptic. Keep up the good work.

Thank you, Dr. Farrand. It is great to see that we are all united in the fight against pseudoscience.

Of course, in his much touted and chorused reply, Dr. Farrand did not mention that the stomachs of some of those Siberian Goliaths had been analyzed studiously and found to contain remnants of still undigested leaves. The very celebrated and fluidly-verbose Charles Lyell had to cope with this untoward fact[51)]. Three of those poor hefty maladroit creatures were even found mummified *erect* [51)].

The author is not at this point able to do the scholarship that such a Mammoth topic requires. To do scholarship you need time and a respected publishing house to sponsor you. To establish a respected publishing house you need money and the respect of the scientific community at large. To earn money and the respect of the scientific community at large you need to play the game and publish what the scientific community at large expects to read. To play the game and publish what the scientific community at large expects to read you have to stay away from topics like this.

Yes, anoxic conditions can preserve vegetal material inside a decaying stomach without need of flash freezing, but there are continents and seas of evidence that something strange, gelid and horrendous struck our so watery and vulnerable planet at around -12,000 years, suddenly and devastatingly flooding lands and causing the paroxysmal death of untold creatures. Bivalves have been reported to have been found open, having

died so suddenly that they did not even have the time to close. Caches with bones of animals of various species all mixed pell-mell have been spotted, in a manner which is hard to explain unless huge tsunami-like waves had suddenly caught them from afar and furiously swept them all inland, with fishes and everything. Petrified cypress forests have been seen. Alluvial deposits have been recognized, heaped as if the weather had been in a hurry to cover its own works. The evidence is there, scattered among the wastelands, the scablands and the gorges. Like Evolution, it is not a myth. It *really* happened, and you *know* it. But you also know that, for all these well-buried and frozen reports to become ``science`` at last, for Sir Henry Howorth`s *The Mammoth and The Flood: Uniformity and Geology* to be reprinted or even just be made available for reading at the Library of Congress, for *Science* magazine to open one week with the spectacular headline: ``Uniformitarians lied in the 19th century: The Flood really happened``, history as we know it will have to come to an end.

And, the author adds, it is about time.

There is an important precedent, however, that ``science`` as we know it might still be able to hold an explosive torrent of information like that. In the 1920s, a young and inquisitive U.S. Geological Survey geologist with the name of J. Harlen Bretz decided to spend a placid summer scrutinizing the topography of northeastern Washington. He trod soaring gravel hills and tripped down dried canyons in search of clues about what mysterious geological mechanism had carved such a torn landscape. The more he saw, the more it became obvious to him that a cataclysmic water outpour had to have gouged all those features, but he was afraid of using the word ``flood`` when presenting his findings to the geological community. The magnitude of the required flood defied the imagination of any geologist, and he did not know how the minds of his colleagues would react to that. He was not a psychiatrist like the still unheard-of Velikovsky. Still, he decided that he would not be daunted. So he went up boldly against orthodoxy,.. .. .. and won.[52)]

Stephen Jay Gould, that most endearing and logorrheic of all science hero baseball-card collectors, even devotes a whole chapter in one of his popular books to this cause celebre of scientific insolence. In his all-embracing, ecumenical globe-trotting stump for the Forces of Change, sometimes the Pope can canonize real Saints and sound really heresy-friendly. Gould agrees that, to date, there would be ``no known mechanism`` for the sudden, surging ice melting that must have been required to carve the Washington scablands *if* this water had sprouted from direct de-glaciation, but then with torrential speed he hurries for the break-the-glass-and-use-in-all-emergencies evidentiary fire-extinguisher of ``Lake Missoula``.[53)]

The ice pack that was damming ``Lake Missoula`` simply broke, the Pope says, and what are now the channeled scablands and coulees just happened to lie on the direct spillway to the Pacific. How the inching, leaden-footed retreat of a glacier could have burst the floodgates of geological change open enough to allow the sudden outpour of a twelve-meter-boulder-carrying, 752,000 cubic-feet-per-second, 50 mph deluge we are not told exactly. The erratics spotted by Bretz in the Columbia are a thousand times larger than the river gravels conveyed by the river today, and are angular and not smooth. 200-ton boulders that are neither volcanic or meteoritic in composition somehow managed to get

scattered over thousands of square miles in the Columbia and Willamette Valleys. At some point, the scarped, channeled Wallula Gap was submerged under a thousand feet of water.[52)] The Ice Age hypothesis is really on the rocks. Of course, in the end the ``technical literature`` has answers for everything, and so it turns out that the so-called ``Lake Missoula`` was actually a set of lakes that formed and reformed over hundreds of years as the catastrophic floods gouged the scablands at just the right rate to account for those floods by spontaneous ice-dam-breaking and save the Ice Age theory. The glacier kept advancing, dogged and mulish, in its southerly direction, determined to please Louis Agassiz and not let any of the repeated catastrophic instances of ice-dam-breaking that blasted its walls daunt its relentless lake-forming march.[54)]

The very Bretz had to call on the Missoula ice-dam fire-extinguisher to avoid suffocating the geological community with the smoke of calamity. Otherwise his life`s meticulous and devoted work would have never been recognized, and the Geological Society of America would have never granted him in the end the Penrose medal (the highest reward for any geologist), as it did, after scabbing and craggy controversy, at the annual meeting of November 1979.[53)]

But by then, of course, Immanuel Velikovsky had already shot all of his rounds, and his meteoric cataclysmic arguments had all been ``debunked`` and deflected off their deadly course by Isaac Asimov, David Morrison, and other self-appointed high priests of ``modern`` science. Worlds just don`t collide with each other, was the scientific ``consensus`` that emerged from the ``great confrontation`` between ``scientists`` and ``Velikovsky``.[55)]

The author again does not have the time to get into the Velikovsky/Asimov non-controversy. The pamphlet that came out of that volcanic, fuming clash, in which officially the ``theories`` of Velikovsky are refuted, deserves to be replied to properly, scientifically and academically, and for that a real book much thicker would be required, project whose sponsorship would require tectonic, incandescent tremors in the very way science is conducted in our world, as well as the end of all lies and automatic reddening of Mars surface pictures. Suffice it to say that the author knows of a contact in the aerospace business who has been commissioned several advanced space systems designs and who has studied extensively the strange orbital resonances of the Earth/Mars system. This person has worked on the advanced military space technology of which later on NASA and the various overhead bureaucratic mammoths of the official space program only get to eat the crumbs, and then only very discreetly. He knows the kind of toys that the stratospheric-chlorine-devouring environmental barnacles who axed the Space Shuttle and anything that could arouse excessive technological optimism in the starry-eyed sky-looking American public have clandestinely and tight-lippedly been allowed to lay their hands on since the late 60s while they were feeding the people the Malthusian conservationist chimera that more supersonic flights would cause worldwide outbreaks of skin-cancer and usher in another Ice Age; however, he is more seasoned by experience than to resort only to academically ``untestable conspiracy theories`` for his arguments. So this contact calls on untoward revealing slips that somehow filtered their way out of the Giant Photoshop Machines of JPL, such as the observation that the famous Mars-Pathfinder-imaged boulders lack enough erosion to have been there for more than 10,000 years.. .. ..; and suggests that our planet is still reeling from a horrible and sudden

cataclysm that struck it 12,000 years ago, before which the Earth was probably in an orbit closer to the Sun (and still waiting for runaway global warming), and Venus did not exist but as an ivory, pasty mote of dust on the furious Eye of the giant Odysseus of the solar system.. ..

Let something be clear, though. The author is no uncritical follower of Velikovsky. That this ``Russian psychiatrist``, as he was degraded on TV in the most apogean moments of global humanistic propaganda, hit with his ``theories`` his cometary hammer on something very deep and very untouchable that sent the whole academic curia on the warpath and made it react with a wrathful unanimity never before witnessed in the history of science, is something the author has no doubt about. But the author does not doubt either that this ``medical doctor``, as he was alluded to in the more respectful and obscure occasions, often put the cart before the horse and, in advancing his incensing hypotheses, clearly betrayed that he was as erudite of classic mythology and aboriginal art as he was stupendously ignorant of the most basic laws of physics.. .. .. or was he?

The very Stephen Jay Gould, in one of his usual absolvitory apologies that so pompously and magnanimously earn him the reputation of a modern, open-minded, heretic-friendly Pontiff, acquits Velikovsky as a valiant and outspoken scientific hero who just happened to be ``gloriously wrong``: for example, the Velikovskian claim of a violent sudden death for the fossilized fishes of the Old Red Sandstone Devonian formation in England, which the Russian crackpot had based on presumed telltale signs of unwonted catastrophe like contorted bodies and horror-shocked faces, is congenially dismissed by the pope on the grounds that the fish-fossil-bearing strata in question stretch over hundreds of feet that report the story, ``however unpleasant``, of millions of years[55)]. Nice mind-control trick, Gould. Yes, the Old Red Sandstone strata tell a horrible and still in many ways unexplained tale of destruction that lapses agonistically for millions of years, but the real purpose of this most clever palsy-walsy refutation is not to take on the Old Red Sandstone.

The real purpose of this most clever palsy-walsy refutation is to activate in the unconscious of the reader the neurotic and repressed memories, inherited from our forgotten ancestors, of *other* fossils which Gould knows but does not talk about, and which record paroxysmal geological events that do *not* stretch for millions of years, because these events happened all in the very last seconds of the cosmic calendar, back when, if Plato and the Greeks were not pseudoscientists, a continent with a flourishing and dainty civilization endowed with mysterious technology still rose from the fabled abysmal waters beyond the Pillars of Hercules, on the spot that today is occupied by the extremophile-swarmed, methanogen-seething and paleomagnetically-scrambled deep-sea hydrothermal vents of the mid-Atlantic ridge.. .. .. With Daedalian and crafty dexterity, Gould floats up the Mason memory stones of the irrelevant catastrophe to sink forever the traces of the Titanic, important one.

It is no wonder then that the editor of lavishly-illustrated and profusely-annotated children`s treatises with such mythological and sacred names as *The Book of Life*[55)] and *Illuminations*[55)] divides the book in which he thus takes on Velikovsky, namely, *Ever Since Darwin*[55)], into 8 sections and *33* chapters; presents amicably and invitingly his purposeless ``view of life`` on page 13; waits till page 13x2 to mention his father`s idol

and Darwin`s great ideological double, namely, Karl Marx; alludes to the ``*burning*`` desire with which *Beagle*`s captain Fitzroy wanted to atone for his guilt of having let the ``silent *alchemy*`` work on the mind of Darwin and reassert the ``supremacy`` of *the Bible* on page *33*; titles the last, most sunny and betraying 33rd chapter ``So cleverly kind an animal``; and, very superstitiously, reserves for chapter 13 the most holy of topics.. .. .., namely, the classification of all the eukaryotic and prokaryotic *king*doms, irreverently titling this chapter, as if he were just another air-headed five-pointed-star-amulet-wearing pagan mountebank of the demon haunted world, ``The Pentagon of Life``. In our obscure era of redoubling superstition, atavism, pseudoscience, bigotry and jingoism, Gould`s rational and skeptic books stand as a real candle in the dark. You don`t know up to what extent. And, most likely, you don`t want to see it either.

Granted, unlike all the high and consecrated priests that preceded and followed him, Velikovsky did not work for the Great Liars of Ages, but he *still* lied, or at least he was clamorously, inadmissibly, gloriously wrong in his theories, and modern science has proved it. For the cuneiform babylonian records well attest to the fact that Venus was already flaming in the skies and was being reverently and superstitiously worshipped as the morning star as early as 1645 before that nagging Christ[55)], which obviously means that it must have been in the skies for billions and billions of years. It must have been there sailing like a silent sulfuric Mariner of greenhouse thermodynamic equilibrium since the blackbody was black, crushed under the muzzling suffocating oven heat of 90 atmospheres, and thinking anything else is just a Venereal disease of the mind. Velikovsky was a pseudoscientist, and his recycled sedimentary Flood theories were a myth. Worlds just don`t collide with each other. The Grand and exquisite symphony of the cosmos does not tolerate such strident notes.

Still, it is interesting that only a few years later Stephen Jay Gould, while visiting Indianapolis in late 1983 for a conference, was called to the Freemason lodge, and the whole scientific community was within days given orders to override uniformitarianism and admit to asteroid-impact-caused-mass-extinctions if that is what it took to keep the increasingly more uniformitarianism-skeptic masses enthralled: great care, however, was taken this time to maximize the profit from this concession, so that the new Alvarez K/T dinosaur-extinction iridium punctuated-equilibrium scenario would be used as a subliminal tool for everything from anti-arms-race nuclear-winter scaremongering to Jurassic-Park biotechnology propaganda[56)]. Worlds actually *do* collide with each other, but they do so at intervals of millions, not thousands, of years, was the new consensus ``reality`` that emerged from this Orwellian year of 1984 in which, it was later on admitted publicly, Turco, Crutzen *et al* had lied[57)] (their much-touted, *Parade*-sensationalized doomsday nuclear-winter scenario conveniently ignored the soot-removing global role of oceans in a frantic attempt to intimidate the superpowers into surrendering their nuclear arsenal and ending the Cold War; it was, as physicist Freeman Dyson would later put it, ``good`` politics and bad physics[58)]).

And then, in 1994, the reeling, flickering JPL images of comet Shoemaker Levy dropping its flashing megatons of dust and ice on the Cyclopean atmosphere of Jupiter was used as a stern, create-yet-another-taxpayers-financed-global-commission-to-track-Near-Earth-Objects reminder that, after all, comets do *really* hit planets.. .. .. today[59)].

But please rest assured that everything is OK with our solar system, and that the same universal physical laws that apply today also applied 2001 years ago on the sea of Galilee, and 12,000 years ago in what are now the extremophile-swarmed, methanogen-seething and paleomagnetically-scrambled deep-sea hydrothermal vents of the mid-Atlantic ridge. Like a harmonious and dainty music of the spheres, Physical laws are immutable and universal. They really are. The seas are in their right place and science does not lie. Only Plato, the Russian Academy of Sciences, The Yale department of Geology, the scablands of Washington and the mammoths of Siberia lie.

GLOBAL WARMING: THE WORD ``CATASTROPHE`` IS O.K. AFTER ALL.

In the modern literature, we read reports of reef-drowning[60)] and massive coastal overstepping[61)] at 8 kyr to 12 kyr ago. Suddenly, there is now no problem with using word ``catastrophic`` to describe that.

There is now suddenly no problem, in fact, with sensationalizing *anything* that could point to anthropogenic activity as the great baddie. Anything remotely justifiable by science that could be used to scare industrialized nations into paralyzing their production and surrendering their sovereignty to a UN regulatory global environmental bureaucracy will be used and, you can be sure, if it has not been used already it is because the argument is still being studied very carefully by unelected bureaucrats and bankers to determine how to extract the maximum political profit from it. The unelected bureaucrats and bankers on the UN/World-Bank/World-Watch-Institute payroll dictate the outcome of the research and we the scientists merely pursue the research; the unelected bureaucrats and bankers delineate the grand conclusions, and we the meek prostituted scientists simply fill in the details, add the equations, put on the daunting abstruse professional jargon, and append lots of high-hat references. Otherwise we don`t get published, and you know it. Like the journalists, the publishers, the writers and the reporters, we scientists often are forced to dance to the tide of the times, which is set not by scientists but by the moneyed Mammoth and the old Great Liars of Ages who pay for our tuition, our instruments, our textbooks, our bread and our ozone. Who if not will funnel in the money for the next glossy, costly and generally ad-free ``peer-reviewed`` journal in which we so much hope to get published?

That is why, for example, this author has no personal animosity against Stephen Jay Gould despite everything he criticizes him for, and readily forgives him for his fitful acts of pontification, beatification and absolution. He is just doing his job. The Forces of Change on our world are just too turbulent, too flooding, and too whirling to resist for many, and the ivory medieval naves of Harvard are just too elevated a setting in which to teach and delight oneself, abbot robe on, in the connoisseur delicacies of fine scholarship, poetry, literature, art and music. Or have you forgotten that science is not insolence, laughter or even progress, but merely an eternal and sublime recapitulation. So leave those untoward and ugly Two Minutes Hate of 1984 aside and give me another two minutes before the majestic and kaleidoscopic south transept of the Chartres cathedral, there on the shoulders of giants. The rest is simply dithyrhambic, and does not even merit being exalted by a humble Bach.

Gould, in fact, has done more than anyone else to advance science closer to the truth. That he has done so under the auspices of pope John Paul II and with an ecumenical agenda in mind is not a scientist`s business. Granted, the statement that first warned the world, in the somber and gloomy year of 1984, about the dangers of nuclear winter, was crafted by Gould and nineteen other scientists from Eight different nations and various religions that met at the beginning of Orwell`s year at Pius IV`s palace summoned by his holiness the pope[56)]. After nuclear summer and before global warming there was nuclear winter, and in the spring there was a choice of futures. And, as Arthur Clarke openly confessed to the solemn and circumspect Sri Lanka dignitaries that year, at that moment all international efforts by the great intellectuals and humanists from all sides were centered on the avoidance of nuclear war, and everything else could be sacrificed and in fact much of it in the end was[56)]. That this immolation of sovereignty on the altar of ``peace``, ``détente`` and ``ecological sustainability`` was exactly the lurking and stark psycho-civilized danger Orwell in vain tried to warn about in his famous novel appeared to make no difference to these unelected choosers of mankind`s future: in fact, one can suspect that it was the very year of 1984 that inspired them to make such a mockery of Orwell in their media-fanned pacifist manifestos.

Gould mustered his most splendid and pompous rhetoric for the occasion, calling for the ``continuity of life`` with a sacred and beautiful metaphor as old as the Dragons of Eden: The Tree. He called paleontologists ``the guardians of life`s history`` (indeed they are). He alluded to the titillating coincidence that the same calamity that ended the reign of those ``magnificent beasts`` could now hold the key, if explored by science and ``understood`` by the public, to the survival of the tool-making species that owes its existence to their demise (but, of course, he did not commit the slip that Turco would later commit of mentioning the ``brilliant reptilian brains`` of the Soviet nuclear bureaucrats that suddenly then stood in the way of ``peace``)[56)].

On the very virile and sunny page 4***33*** *The Flamingo`s Smile*, Gould went on to drumbeat the Gaia hypothesis and mushily referred to the Earth`s biosphere as a ``living organism`` with ``its own continuity`` that can disperse evenly ``the insults`` that it ``suffers``[56)]. How angelic the superstitions of the demon haunted world can be if they suit the agenda of its Pope. And, before moving on according to script to the old hackneyed 26 million year cosmic dance of Shiva and invoking pathetically the goddess Thalia to wish astronomers good fortune in their search for the obscure and elusive Nemesis companion of extinction, Gould pulled off the ultimate insult to the intelligence of the reader, really betraying up to what extent the Pope thinks that his flock is blind and stupid. Gould let slip that the original nuclear winter report by Turco, Pollack, Toon *et al* was published by *Science*, on the winter solstice day of December 23rd 1983! Oh! How gloomy, how dark, how eclipsed, how sooty a nuclear winter must be! Do you think that Christmas Trees would survive it?

But enough of nuclear winter shudders. Let`s get on with global warming.

By measuring Sr/Ca and U^{234}/Th^{230} ratios in corals from both stable and tectonically uplifted Australian sites and comparing them with Barbados values, McCulloch *et al.* have now suddenly concluded that ``an exceedingly rapid rise in sea level of 30-50 meters per Millennium`` must have occurred over the course of the last interglacial, and

that therefore ``the potential now exists for greenhouse warming to initiate increases in sea level of at least several meters on relatively short time-scales (100 years)``[62]. The authors of the report see as the cause of the last interglacial rapid sea-level rise the usual orbital forcing driving Northern Hemisphere insolation and melting the continental ice-sheets, and this, you see, must put us all on alert, because we must not forget that *Homo Sapiens* has now the dangerous technological potential to alter the Earth`s orbit, using smog-check-compliant natural gas for example.

It has also been documented that a ``catastrophic`` lowering of the water level by at least 25 meters drained the eastern Baltic area about 8,500 years before the present, following another 25-30 meter drainage about 10,300 years ago, which was reportedly caused by the ``drop`` of the Baltic Ice Lake at Billingen in central Sweden. Freshwater mollusc fauna were found beneath brackish water specimens in a tectonically lifting area, indicating that sea levels had indeed dropped[63].

In another piece of superb globalistic propaganda, Paul Blanchon *et al.* reinterpret the ``catastrophic``, meter-scale sea-level-rises during the last ``de-glaciation``, with all the supposed unloosed fleets of icebergs and drowning reefs and scrambled atmospheric circulation patterns, as an alarming ``omen`` of what uncontrolled greenhouse emissions can now do[64), 60].

But current sea level trends are hard to gauge, and the complex and by no means global mechanisms that link them to ``global warming`` are by no means well understood.

For example, global warming will induce both thermal expansion of the oceans (a factor much more weighty than the mythical melting of polar ice sheets) and alterations in circumpolar and tropical ocean circulation (Church et al. 1991)[65]. Small, inching, mulish glaciers also play a role, whether they may succeed in the end at forming lakes and extinguishing geological fires or not (Meier, 1984)[66]. Assuming an accumulated ``global warming`` of about 0.5 degrees centigrade, these two effects combined can account for up to one millimeter per year of sea level rise over the last century: a mere child pebble`s splash on the boundless shores of the cosmic ocean.

In 1989 Zwally *et al.* reported, from satellite altimeter data, a thickening of the Greenland ice sheet in the interval between 1978 and 1987 at a rate equivalent to a sustained fall of sea level of a few tenths of a millimeter per year[67]. If this trend can indeed be extrapolated over time, then it means that a possible global-warming-induced increase of eustatic sea level rise could be counterbalanced by the accumulation of ice on Greenland due to magnified precipitation there.

The fuming and venting reply to this drilling research from the ocean piston cores of the academia was short in coming: in 1990 Douglas *et al.* were blusteringly disputing the adequacy of the satellite altimeter data analysis technique[68] (it is O.K. to distrust JPL satellite pictures if that`s what makes your thinking more global and world-government-friendly), and further estimating that the alleged increase of ice thickness (about 20 centimeters per year) would have seriously impacted the angular momentum of the earth in a fashion that has not been observed (by JPL satellites). Later (1993), Van der Veen also disputed Zwally and his colleagues merely on glaciological and stratigraphic

grounds[69]. Glaciers can advance very inefficiently and negligibly when the new world order is at stake.

There are many other local, geographic factors: Chao (1991)[70] has argued that the buildup of water in above-ground reservoirs has been equivalent to a fall of global sea level of 0.7 millimeters per year over the last 40 years. Predictions for the total magnitude of sea-level rise for the coming decades have also been very eddying and tidal: The Wall Street Journal, arguably the last respected bastion of turbo-charged and untrammeled industrial capitalism against the spreading cobwebs of natural-gas-idling smog-check-compliant socialism and postmodern conservationist neo-hippie environmentalism, was understandably skeptic when it allowed Professor Singer, the president of the Science and Environment Policy Project, to blurt out in its pages that global warming (if it is really taking place), would only *slow* any current rising trend in sea levels[71] (again because of the rainfall thickening of polar icecaps). The very Environmental Protection Agency had to recant 75% from its initial alarmist estimates of 80-120-inch rises in global sea levels upon doubling of atmospheric CO_2, and, in 1996, the United Nations had still no better pacifist arsenal than a predicted rise of 15 to 22 inches by 2100[71].. .. .. based on only Lucifer knows what assumptions.

Even the Union of Concerned Scientists, a self-confessed environmentalist think-tank, agrees that there is still no evidence of an acceleration of sea-level rise during this past century, though such an acceleration should not necessarily have ensued from the ``global`` climate change observed until now (Warrick *et al*., 1996)[72]. The Intergovernmental Panel on Climate Change, that most humanistic and scientific-looking of UN fronts, prognosticated in its Second Assessment Report a sea-level rise for the next 100 years of about half a meter.. .. plus or minus 86 centimeters! But fear not, dear environmentalist: upcoming global emissions models currently being hatched by the IPCC feature lower sulfur dioxide levels, with their sulfate-aerosol-induced cooling effect, which will bring up the projected rate of sea-level rise for the next century to up to four times the (positive?) mark of the last (Wigley, 1999)[73].

It is said that coastal wetlands, beaches, lowlands, barrier islands, small islands and atolls are particularly defenseless before the rising seas. It is said that a 50-centimeter sea-level rise could flood (yes, now the word is OK) up to half of the North American coastal wetlands (Shriner and Street, 1998)[74]. It is said that these regions constitute a most sensitive and important habitat for large numbers of coastal and estuarine bird and fish species, and perform vital ecological functions such as sediment confinement, pollution filtration, erosion amelioration, and (there it goes again) flood prevention. It is further said that most wetlands have been able to keep up until now with the recent historical sea-level rises by the buildup of sediment and by shifting inland with the invading sea, but that the sped sea-level-rise rates predicted for the next centuries years *could* be too fast for these natural mechanisms to adjust to.

It is also adduced that, unlike deltas and other estuarine and coastal ecosystems, small islands have no hinterland to recede to in the event of land loss, and their land resources are very limited. It is estimated (Nicholls and Leatherman 1995)[75], that a one meter sea-level rise would have a severe and perhaps catastrophic effect on six million people in Egypt, with a 12% to 15% loss of agricultural land; 72 million in China, with a loss of

thousands of hectares of crop land; and 13 million in swampy and marshy Bangladesh, with a 16% loss in the production of its emblematic rice. Other indirect nefarious geographic consequences of sea-level rise that have been put forward include encroaching erosion, brackish and fresh water pit salinization, damage to coastal and estuarine infrastructure, overload of the sewerage systems in crowded, tepid, malaria-stricken developing countries coast cities with WHO knows what health side effects, and loss of littoral ecosystems[76]. Human actions that have been reported as malignant to wetland ecology, and which must be added to the possible impact of sea-level rises specially if industrial relocation is considered, include: dredging, stream channelization, levees, fill material deposition, logging, mining, runoffs, biota nutrient cycle alterations, non-bio-degradable chemical releases, nonnative species introduction, domestic animal grazing, diking, damming, tilling for crop production, and thinking, which exudes too much saline, toxic-ion-carrying sweat[77].

It is further explicated that delta agriculture, particularly in developing countries, is a very complex and buzzing activity that depends very sensitively on tangled, lapping interactions between the land and the sea, and the Mekong delta is almost invariably put forward as the example (Jelgersma et al., 1993)[78], with its seasonal variations in siltation and its boggy, fenny annual incursions and regressions around the Ca Mau peninsula (Fedra et al, 1991)[79]. It is also argued that, unlike normal coastal and estuarine environments, deltas are very hard and costly to protect, because of the divided topography of the coastline. Although deltas are generally very populated, it is always remarked in good and humanistic global climate change literature that assessing how many people live in them is not really that important[76]: *Homo sapiens* is, after all, the last species that must be protected.

It is also posited as noteworthy that deltas, while not specifically vulnerable, are the result of long, silty alluvial formation processes and therefore are very ``tuned`` to the present climate (Riebsame et al, 1995)[80]. Hence it is said that any departure from such a current, sickly equilibrium, even one that would a priori be beneficial, like an improved rainfall/evaporation ratio, would cause a temporary and unwelcome ``disturbance`` in the ecology of the region. It is said then that Flamingos, Pelicans, Sea lampreys, Common reeds and White perches would be threatened out of their unguarded, sensitive habitats.

In 1990, the IPCC provided its best estimate of sea-level rise based on the usual extrapolated projection of greenhouse emissions for the next century: 6 millimeters per year.. .. .. with a range of uncertainty of 3-10 millimeters/year[80]. Subsequent reconsiderations of this trend have yielded lower predictions as a result of the recanting downward UN-lifeboat revisions in global warming rate. It is said that sea-level rise will be two to five times the rate of the past century, and inhabitants of coastal zones and small islands must be put on alert. Further, it is estimated that sea levels will keep rising beyond the year 2100 even if global greenhouse emissions stabilize, because of the lag in climate response: never mind the regolith planetary engineering capabilities that a human race freed of the regulatory Malthusian cobwebs of world government and the invisible suffocating greenhouse infernal pressure of the squashing world Mammoth bankers could achieve in a hundred years[80].

The IPCC, of course, is scientific enough to note that regional and local responses to the hypothesized ``global sea level rise`` will vary markedly, because of vertical land displacement and a myriad of other splashing ponded little factors. ``Glacial rebound`` will keep uplifting parts of Scandinavia; the Mississippi delta will keep undergoing sediment-loading-consolidation subsidence at 1 meter per century, and groundwater pumping and tectonic activity, like petroleum extraction, life, and the lending of interest-charged non-existent money, will go on. Chaotic dynamic effects of oceanic circulation will also keep rippling unpredictably the level of the waters, with deviations from the geoid ranging up to 1 meter in systems like the Antarctic circumpolar current and the Gulf stream[80].

About 20% of the world`s coast is sandy and beachy: for the past century 10% of the world`s sandy shorelines have been advancing; 20% have been stable and 70% have been retreating. Sea-level rise has been noted as only one of the many geological factors contributing to erosion, and attempts to correlate sped coastal erosion with global sea-level rise have been generally precarious and unsuccessful[80]. Too many local windy dusty salty silty little mechanisms seem to be at work for the ``global`` trend to emerge. Historical analogues with the fully scientifically explored and crystal-clear-understood Holocene have made IPCC scientists consider transgressive sedimentary sequences (where sandy coastal barriers migrate landward), stationary barriers, and even seaward advances as possible consequences of global sea-level rises[80].

In other words, global sea-level rises can have any consequence.

And so the IPCC global climate change experts conclude all pooped, after the hard and weary scientific sessions of their much-media-touted global-taxpayers-financed world summit, that future sea-level rises will cause already eroding sandy beachy shorelines to erode further, stable sandy beachy shorelines to begin to erode, and accreting sandy beachy coasts to wane or stabilize[80]. Congratulations.

Another serious and poker-faced conclusion of the IPCC is that rising sea-levels will deepen and widen estuaries, inducing more severe erosion on the adjacent open coast, even though along the southeast coast of Britain, for example, where local subsidence has already accelerated sea-level rise to 4-5 millimeters/year, estuaries are actually becoming wider and shallower as sediments redistribute[80]. In macrotidal estuarine formations of Northern Australia, channel widening precipitated by the rising sea level will drive up sediment to the neighboring estuarine plains, countering the effect of flooding (sic) and producing steady vertical accretion, with the subsequent endangering of backwater humates-rich swamps and estuarine riparian ecosystems. Oude Essink *et al*. (1993) [80] also demonstrated a very erudite and keen-sighted scientific analysis of global climate change when they ventured that saline water will percolate farther upstream into the pouring rivers as a result of rising sea levels.

Coral atolls and reef islands are particularly vulnerable to sea-level rises with their delicate dainty calcareous formations. Coral reefs comprise 600,000 km^2 of the Earth`s surface, the frangible, graceful and patient natural construct of intricate coral-spawning organisms that are estimated to deposit up to one billion tons of $CaCO_3$ a year[80]. You don`t have to be another snorkeling flipper-flapping polyp Odysseus of the planktonic tropical waters in search of the treasure of a mysterious sunken galleon to imagine the

colorfully-billowing diversity of marine biota that is sequestered in the neritic sapphire underworld of the coral reefs. And coral reefs are very sensitive to increases in sea-water temperature: they can pale or even bleach. If a seawater temperature of 3-4 ^{o}C is prolonged for more than six months, corals will generally die[80)].

In October of 1996, more than a hundred concerned citizens of the Chesapeake area in Maryland along with scientists, businessmen, and policymakers from all levels took part in a two-day conference sponsored by the University of Maryland and the Environmental Protection Agency, to ``assess`` the state of the Bay ecosystems, and to determine the steps can ought to be taken to ``counter`` the estuarine and coastal (those two words sound always so environmental together) consequences of regional sea level rise, which has been of 30 centimeters in the past century. The tone of the conference was stepped up and splashed up unapologetically into how to ``involve`` local and state decision-makers in the situation. A workshop for ``educators`` was held, following by a ``wetlands brainstorming session``. Brainstorming indeed. ``Cooperation`` among all 1650 local governments was called for[81)].

George O`Donnell, a County Commissioner, mournfully and nostalgically recounted how he used to make a living as a waterman plying his boat and dredging for oysters which were for so long such an emblematic feature of the Bay`s picturesque seascape. But there were not any more watermen in the legislature, O`Donnell sobbed. Hemingway`s Old man had been robbed of his sea.

Jessie Marsh, another former waterman, chronicled the legacy of the death of this traditional and rustic ``way of life``. Marsh, who grew up on Smith Island, narrated in a melancholic and maudlin tone the successive disappearance on the Island of homes, schools, churches, ball fields, cemeteries, and, lastly, trees. The fisheries, for so long such a colorfully representative industry of the region, had disappeared[81)].

As the nation`s largest estuary, the Chesapeake Bay is a semi-enclosed basin bathed by fresh riverine water from the Susquehanna and by saline water from the Atlantic: as a result, it embraces a turbid, muddy body of water rich in sediments and nutrients. Brimming with vegetation, the Bay is habitat to diverse and relevant species of fish, as well as to the blue crab. It was then said that climate change would impact noticeably and muggily on the Chesapeake`s sea level, rainfall and wind patterns. Victor Kennedy from the University of Maryland`s Center for Environmental and Estuarine Studies emphasized the effect on shallow water temperature, which would scramble organismal activity, growth, nutrition and metabolism, with lethal consequences for entire species. Under the soggy and squashy consequences of climate change both warm and cool water species would migrate north. Increased precipitation would result in magnified runoff, squeezed habitats, and the stratification of brackish, limnetic, riparian and estuarine waters, with the accompanying depletion of available oxygen and stiffening of pollution and.. ..

Enough!, spouted Jim Titus of the Environmental Protection Agency. ``How do we take the information we have gained on climate change and make something happen on the ground?``, he asked. ``Where do we target educational efforts?`` It was pointed out that members of the legislature, the ones in charge of the weighty planning issues, were not going to have time to ``go to the library`` and inform themselves about climate change.

Some lobbyists were needed to ``educate`` legislators on these important issues. In particular, constituents had to transport to their representatives the momentous and consequential conclusions derived from the Conference. U.S. Congressman Wayne Gilchrest urged attendees to work out an effective and sprinkling strategy to make sure that the Chesapeake environmental assessment presented at the Conference reached policymakers ``at all levels``. Mobilization of ``the whole state education system`` was called for. A ``teacher`s guide`` was already being prepared[81)].

Attendees were reminded that coastal and estuarine lands evanish almost imperceptibly with erosion and submergence, and that society ``as a whole`` had until then ignored sea level rises and its impacts on unguarded silty formations like the Chesapeake Bay. ``Long-term planning``, a novel and unrewarding concept for most reelection-concerned, short-run-looking environmentally-dim-sighted politicians, had to be introduced. Near-term, feasible engineering solutions like bulkheads and breakwaters had been shown to be insufficient: over the whole Bay area, their intrinsically costly infrastructure would worsen instead of emendating the problem in the long run. Bulkheads were also defenseless if the seas rose high enough. Beaches were already being eroded, wetlands were being lost, human population, that most pestilent and nefarious of all environmental plagues, was increasing; and coastal ecosystems were ``suffering damage``[81)].

It was explained that, until the seventeenth century, the Bay watershed had been draped with lush, blossoming vegetation: pathogen-free roots held the soil firmly, and thick leave canopies mitigated the wind and rain. But, with the arrival of the white Western men, a highly predatory and mephitic nonnative species, the until then ecologically self-sustainable lands began to slowly but relentlessly clear, niches began to disappear, and by the mid-nineteenth century thousands of acres of oak forest had been chopped down for corn and tobacco. Eventually these fields were wearied and abandoned, and the soil, no longer gripped by roots or sheltered by foliage, was swept into the Bay. Silt accumulation became such a problem that a county seat had to be relocated. Sediments from the early agricultural erosion have laid spongy and bland mud flats on sandy shores; marsh grasses have taken root and wetlands have formed, but, still, current dams trap sediments in reservoirs behind barriers, and overall more land is now vanishing than is being created. Also, the burgeoning population`s rising demand for water results in the drilling of deeper wells, with the subsequent failure of aquifers and subsidence. A high cost is estimated for future land loss prevention. Historic ports have certainly been fortified with revetments and bulkheads, but on the Eastern Shore, upland areas have continued their submergence and marshes have kept sinking, with their precious buzzing ecosystems of reeds, sedges, nematodes, rat-tailed maggots and shore flies.

Clearly new marshes had to be developed.

Eastern Shore residents, however, were concerned that the resulting intrusion of brackish water plants would entail loss of fertile agricultural land. The attendees of the Conference agreed that indeed the disappearance of fecund tillable land would diminish crop yields, but argued that this was no problem as there was still ``ample agriculture space available elsewhere`` and, in any event, traditional ``defensive measures such as bulkheads were not justified`` anymore because of ``the high cost of protecting low-lying land``. It is always better to light a human than to curse the marshes.

The Conference ended with the very thought-out, meditated and totally unanticipated conclusion that, to prevent the atmospheric accumulation of greenhouse gases, which is obviously the only cause of sea-level rises worldwide, drastic and not very popular measures like reforestation, reducing energy consumption and, most importantly, ``curbing`` population growth, would have to be adopted. Governments, entrepreneurs and private citizens would all have to do their bit by establishing adequate and Federally-approved fringe marshes and by restoring ``natural habitats`` through already prepared programs like the Wetlands Reserve, Partners for Wildlife, and Waterfowl Habitat Improvement. Legislation could be passed to promote acceptable, environmentally-friendly forms of human behavior and ``limit`` all others[81)].

In 1998, Jim Titus did not have the patience to wait for the scientists` conclusions anymore. Pouring his silt directly into the global mid-latitude currents of Associated Press, he vented that ``although scientists are [still] debating why the ocean is rising, the Atlantic`s movement is well documented``, and added ominously that approximately ``1,000 square miles of the North Carolina coast could be covered with water`` in the next century if the Atlantic Ocean continues to rise, ``according to data`` that had been ``presented`` to the Coastal Resources Commission``. And who was the superlative independent scientist who had presented such ``data`` to that amply funded and managed, Sheraton-hotel-meeting Federal body?

Jim Titus.

Not only that, but the Vermont Agency of Natural Resources now glumly and funereally explicates that, as a result of the global thermal expansion of world waters, introduced zebra mussels from encroaching brackish Lakes could fasten themselves to the shells of autochthonous mussels, hindering movement, feeding and respiration. As the native mussels became thickly encrusted they would suffer and lose weight until they eventually died from inanition, disease vectors, or osmoregulatory complications[77)].

How mushy. The author is going to cry.

Come on, stop letting your emotions be tampered with by lacrimatory amply-financed Pelican-Brief National Geographic Documentaries and lavish mammoth Sierra Club Natural Heritage books and *think*. The author is the first to be sensitive to the whispering and fragile songs of nature: he often stoops down on the street to kiss flowers, sobs when he sees an ant dead on a table, and sometimes thinks that he could not kill a fly even if his own life went on it. The author is very sensitive to the brittle and melodious mutters of nature and makes no apology about it. But the author also plainly refuses to give prince Charles, who as head of the World Wildlife Fund is doubtlessly the supreme high priest of environmentalism in the world, more arguments to think that *Homo sapiens* is no more intelligent than cattle.

If the seas encroach onto the wetlands and the lowlands, we will see them throughout the years advance and we will adjust the location of our industrial plants (which should not be at all polluting and toxic if the technology that Prince Charles knows about were disclosed) accordingly. Or we will defend hard-to-move industries, atoll resorts and seashore residential areas with properly designed and amply robust bulkheads, barriers and breakwaters: the price of fortifying a whole coast, after all, is just chicken feed for

World bankers who have earned themselves billions and billions of years in jail since they started in the renaissance the Machiavellian watery practice of lending non-existent money to *Homo sapiens* and charging astronomical interest rates for it. The same economic weapons that have fettered mankind to the shores of the cosmic ocean and gestated all wars, political movements and nuclear nightmares throughout history can now restore our cradle to the original Edenic beauty in which we found it and take us to the stars. Our generation will be remembered a thousand years hence as the first who decided to spurn away the demons that had overshadowed and tormented mankind since its most forgotten ancestors, and set sail for other worlds. But the Journey of a Billion Miles begins with a first step, and a first ship whose captain decides to say ``no`` to the princes, priests and principalities that expect the usual pillage from his Travel, and regain control of his own Tale. That captain is inside all of us.

We can cope with sea-level rises and any other ``global environmental problem`` easily with the tools of science, technology, and with no more than the natural and honestly capitalist incentives of free enterprise and a reasonably-sized Constitutional government of checks and balances, in the way that the Founding Fathers of our nation, who were all outstanding rationalists and great sailors, foresaw and provided for. No superstitious sacrificial atonement with the mother goddess earth and the spirits of the Cherokee is needed. No world government is needed. No UN is needed. No end of U.S. sovereignty is needed. No confiscation of land, guns and rights is needed. No government foreclosure of factories is needed. No cracking down on ``supernumerary`` scientists and engineers is needed. No 5-year-terms for killing wetland endangered Federally-protected mosquitoes is needed.

If, as a result of the encroaching of the seas and the relocation of our industries, estuarine, neritic, coastal, lacustrine, limnetic or simply wetland species die, we will call Steven Seagal for a formal Indian burial service, we will mourn these lost species with respect, we will ask the most high God to make us honor them, and we will move on. Other species will take their place and the wheel of Life, Darwinian or not, will go on.

If we are just one more species then we are entitled to displace others. If they were in our shoes, you don`t have to be Darwin to be sure that Flamingos, Pelicans, Sea lampreys, Common reeds and White perches would do the same thing.

We do not wish to exterminate other species (even though that *is* what Darwin said we were entitled to do, flat-out, no matter how Gould may now hide it with his papist apologist verbal diarrhea). We do not wish to put an end to other species. We merely wish to live and let live. Every single living specimen is precious: you will not find another one like it in the whole known universe of Billions and Billions of galaxies. But the author is precious too, and so are you. Live accordingly, and without guilt. Respect the environment. Refuse to be treated like cattle. Multiply and fill the solar system.

The global and multi-faced environmentalist movement, as designed by prince Charles and other reportedly shape-shifting human-baby-sacrificing human-pineal-gland-eating Dragons of Eden, does not want to make you feel that you are cattle. It wants to make you feel that you are *less* than cattle, because that is how the Dragons of Eden see you. But you have a right to spit on their faces. The cosmos is behind you.

Forget the previous paragraph. The author fully and legally retracts it, with apology to the Mammoth. It was all febrile pseudoscience, an illusion, a chimera, a hallucination, a mirage, a False Memory. Global warming has taken its toll on the author`s mind and he has for a few lines given in to his most feverish, delusional paranoias. A torrid and muggy summer thinking about the Everglades can make anyone imagine wild things.

Of course there is global warming. Of course man-made emissions do contribute to it, specially if the not at all advanced technology that for decades has been available to produce abundant, cheap and safe power with zero emissions and little environmental impact is quashed because it might even set developing nations free from the multinational tyranny of fossil fuels and despoil the global elite of their energy-conservation arguments to close down nonconforming industries and bring in their much-yearned-for ``global governance``. Of course we have been handling too recklessly our natural resources and we urgently need to clean up the mess we have made. Of course Ted Turner interviews a good scientist once in a while. But to grasp all this we do not need an insect-biodiversity-in-your-backyard-regulating global environmental agency, we do not need treaties after treaties of stifling international ``interdependence``, we do not need to do our homework at night with Halloween pumpkin candles in the dark to save energy, and we do not need to spin data and stamp the name ``science`` on U.N. New Age creeds in a manner that would make our friends the creationists from Arkansas look postmodern by comparison. No, to be mindful of the environment we live in, and in which we have a Darwin-given right as a species to kick ass in, we do not need any pseudoscientific globalistic propaganda, we do not need to sell out our hard-earned liberties and Bill of Rights, and we do not need to watch our kids be dumbed down at schools into utter mute stupidity because if they voice their opinions and dare to think they may even offend some of the classmates with a different ethno-cultural ``sensibility``. To be mindful of the environment, and of what our actions can bring in it, we only need to have common sense, which nowadays seems to be the hardest thing to come by. Yes, fossil-fuel emissions like CO_2 and CH_4 do induce some amount of global warming which can speed ice sheet melting (never mind the release of the icecap crustal pressure[83)] and other factors) and therefore trigger some amount of ``global`` sea level rise over decades.

But we must consider first that water vapor, a naturally present gas in the atmosphere, is vastly more efficient as a greenhouse gas than any man-made product, not to mention copiously more abundant. There are, indeed, Billions and Billions of tiny sparkling droplets of water floating in our troposphere, dewdrops of freshness that cloud the reason of our Concorde-flying Earth Summit politicians, and maintain the natural warmth of what still is, despite the curse of sin, pseudoscience and humanism, the heaven of the solar system. That seldom is brought up in any scientist`s CNN interview.

And water vapor has been present in the atmosphere of the Earth since, well, antediluvian times.

And we are still here, thank Darwin.

We survived, whatever it was that happened 12,000 years ago.

And we will not be defrauded anymore. Please call Randi[84)].

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knowledge in encyclopaedias, you can purchase the sterling official correspondence of The Lunar Society in microfilms from Adam Matthew Publications, 8 Oxford Street, Marlborough, Wiltshire, SN8 1AP, U.K., Phone +44-1672-511921, Fax +44-1672-511663. Current U.S. price is 2100 dollars but, when your soul is at stake, as the blurb of Professor Dawkins` *River out of Eden: A Darwinian View of Life* says (1996, ISBN: 0465069908, Basic Books, 10 E. 53rd Street, New York, NY 10022, 1-212-2077600), some knowledge is just priceless.

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(57) Freeman Dyson, *Weapons and Hope* ISBN 006039031X (1984) Harper & Row, 10 East 53rd St, NY 10022, Library of Congress Control Number: 83048343, Call number U264 .D97 1984. Dr. Dyson, a venerable legendary quantum physicist and space-age visionary, is now spending away at the Insitute for Advance Study in Princeton his golden retirement years, exonerated of academic obligations and with fully-funded permission to indulge his most sick extropian fantasies without having to report to anyone or meet any yearly number of publications, *a la* Einstein. If it were shared by every other scientist of the demon haunted world he says only accomplished rebellious intellectuals like him are capacitated to manage, that would *truly* be academic freedom. Dr. Dyson`s office is D209 at the School of Natural Sciences, his Phone number is 1-609-7348055. Another important reference is *Carl Sagan`s Universe*, Elizabeth Wilson and Yervant Terzian eds., ISBN 0521576032 (1997), Cambridge University Press, 40 West 20th Street New York, NY 10011-4211, Phone 1-212-9243900. The Rocky Mountain News on July 6th 1986 called Stephen Schneider a ``fascist`` for having dared to reappraise the much propagandized gloomy and sooty nuclear winter scenario; three days later, it was praising Schneider for having stood up for scientific integrity in the face of the increasing pacifist pressures to end the arms race. The paper can be contacted at 400 W. Colfax Ave. Denver, CO, 80204. The phone number for back issues is 1-303-892NEWS. Interestingly, Dr. Schneider at Stanford is now the international high priest of global warming. His address is 371 Serra Mall, Stanford, CA, 94305-5020, His Stanford Mail Code is 5020 , His phone number is 1-650-7259978. His publications, which are surely a beacon of light, reason and scientific objectivity in a world of nationalistic political obscurity, include ``Achieving low-cost emission targets`` (*Nature* 389: 13-14), ``Ecology and climate: research strategies and implications`` (*Science* 269, 331-341), ``The greenhouse effect: science and policy`` (*Science* 243: 171-181), ``Simulating the climatic effects of nuclear war`` (Nature ***333***: *222*-227), ``Forecasting in the social and natural sciences: An overview and analysis of isomorphisms`` (*Climatic Change* 11: 7-31), *Global warming: are we entering the greenhouse century?* (ISBN 0871566931, Vintage Books, Random House, 1540 Broadway, New York, NY 10036, 1-212-7829000, Fax 1-212-3027985) and ``Kyoto Protocol: The unfinished agenda (editorial essay)`` (*Climatic Change* 39: 1-21). And, after having won the Nobel Prize for having ripped open a huge stratospheric hole on U.S. sovereignty with his discovery of the ``ozone-destroying role`` of man-made chlorofluorocarbons in the upper atmosphere, Paul Crutzen is retired and unavailable for any more interviews at the Max-Planck-Institute for Chemistry, Division of Atmospheric Chemistry, P.O. Box 3060, D-55020 Mainz, Germany. His personal page opens with the anecdote that the term ``Holocene`` for the last geological period characterized by the end of the ``previous glaciation`` and the arrival of man and agriculture was first coined by Sir Charles Lyell in 18***33***; Dr. Crutzen is now in his spare time studying a new term, ``The Anthropocene``, to designate the last one hundred years that have elapsed since human activities began to have a detectable effect on the global atmosphere. Dr. Crutzen`s extension at his Max-Planck Institute division is.. .. .. 333.

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The World Wildlife Fund pursues its policy activities on U.S. soil at 1250 Twenty-Fourth Street, N.W., P.O. Box 97180, Washington, DC 20037, 1-800-CALLWWF. When the survival of Flamingos, Pelicans, Sea lampreys, Common reeds and White perches is at stake, the United States of America is still very much under the rule of the British Crown.

Richard Hoagland (P. O. Box 1130, Placitas NM 87043, Fax 1-505-7710820) was a former JPL employee, who followed from the inside the Voyager missions and elbowed with all the high priests of the Southern California aerospace industry and academia, before becoming the famous or infamous (depending on your preference) maverick and spellbinding late-night-TV-show Face-on-Mars wacky celebrity that he still, after two lost JPL probes, is. A former JPL director has personally confessed to the author that Richard is a ``very unethical person``. So be skeptic.

A list of venerable and illustrious Freemasons throughout History that always contains the same irrelevant wishy-washy names and never gives away the hard-core names you are after is available as promotional bait, with great pomp and stern warnings against ``hateful anti-Semitic anti-Masonic far-right propaganda``, at any luminous and inveterate Lodge, such as the Mormon rite temple, sorry, Scottish rite temple, at 650 East South Temple, Salt Lake City, Utah 84102, 1-801-3632936.

OTO`s International headquarters` official address is: PO Box 684098, Austin, TX 78768. The main Southern California Lodge (the LVX oasis) is still roughly placed on parallel 33 and can be reached at P.O. Box 821, North Hollywood, CA 91603, Phone: 1-310-6455455. And no, they are not devil-worshippers, so please do not bother them with childish inquiries and contact them only if you are an accomplished scholar and are seriously interested in the Word of the Beast 666.

Emile Zola, as editor-in-chief of *The Laissez Faire City Times*, an internet independent newsletter, is in principle responsible for the Vol. 2, No 36 scoop that appeared on November 2nd 1998 about Jack Persons ``Belarion``, Theodore von Karman, and other founding luminaries of JPL. It appears that Parsons *et al.*

held their bohemian scholarly meetings, which reportedly included black magic, fire-walking and sex rituals, in a specially-revamped, Aleister-Crowley-portrait-dominated, temple-decorated mansion at 1003 South Orange Grove, Pasadena, CA, USA, which would then become the official headquarters of the Agape Lodge 2 during the early years. Expectedly, the address no longer exists. The story of how Parsons reportedly used his academic credentials at this address to put off the police after one neighbor had seen a nude pregnant woman heap and frolic through blazing Promethean fire in the backyard, was floated by L. Sprague DeCamp and was recently, in a rather unusual fashion, run by the *Los Angeles Times* in the June 24, 1990 issue (LA Times, 202 W. 1st St., Los Angeles, CA 90012, 1-800-6399989). An old newspaper picture featuring the ``post-modern trinity`` of Aleister Crowley, Jack Parsons and Scientology-founder Ron Hubbard is being circulated in some psychedelic internet circles; of course the picture could perfectly be Photoshopped. More difficult to Photo-shop, however, are the microfilms of *The Pasadena Independent* at the Pasadena Public Library in 285 East Walnut Street, Pasadena CA 91101, 1-626-7444052. The Thursday, June 19, 1952 issue, a day after the suspicious chemical explosion that killed Parsons in his own garage at 1071 South Orange Grove, opened with the rumor mill full tilt: ``LINK LOCAL BLAST VICTIM WITH WEIRD CULT RITES``. The story came from ten-year-old police files: ``John W. Parsons, handsome 37-year-old rocket scientist killed Tuesday in a chemical explosion, was one of the founders of a weird semi-religious cult that flourished here about 10 years ago. Old police reports yesterday pictured the former Caltech professor as a man who led a double existence: a down-to-earth explosive expert who dabbled in intellectual necromancy.`` Parsons, after the Police had received an anonymous letter from San Antonio Texas that warned of ``black magic rituals`` being carried out at 1003 South Orange Grove, had openly admitted that he had ``formed a fraternity`` which would meet in his apartment to discuss ``philosophy, religion, personal freedom, and fortune telling``. Superstitious pseudoscientists! It is so sad that Mike Shermer and his rationalist-humanistic army were not roaming around there yet with their robes and their candles in the dark. But two years later, and in investigating Parson`s house for a small fire, the Police spotted books and pamphlets that dealt with a ``mysterious Church of Thelema`` (Crowley`s teachings are also called Thelemic teachings). As usual with these cases, the Police investigation was not allowed to go any further. These should be more than enough cues for the cold, level-headed, skeptic, inquisitive scientist who wants to find out what really happened but who doesn`t want to get burnt by shaking the hands of any devil of our demon haunted world. If you *do* want to get burnt, then send a $40 payable to ``cash`` to Shedona Chevalier in care of the Living Flame Camp of O.T.O at 9047 Centerway Road, Gaithersburg MD 20879 and request the original Parsons manuscripts and a copy of a video interview she knows about by a friend of hers who worked at Fox that lets the cat out a little: if you are well-mannered in your request and hint enough moral depravity and academic genius she may even accede to initiate you into a few dark secrets of the American space program.. .. ..

Jon Covey and other creationists, who are obviously all pseudoscientists because their articles are systematically rejected by *Science*, are available to answer questions about turbidites and other pseudostratigraphic pseudoevidence of pseudocatastrophism at SBCSA, 22322 Harbor Ridge Ln #2, Torrance, CA 90502, 1-310-3282845.

Dr. Duane Gish and his Institute for Creation ``research`` are located at The Museum of Creation and Earth History, 10946 Woodside Ave. North, Santee, CA 92071, Phone 1-619-4480900, Fax: 1-619-4483469.

Joyce Arthur is a free-lance writer who has written some pieces of outstanding scholarship for Michael Shermer`s *Skeptic* magazine (her article taking on creationism and Duane Gish casually came out in the special Carl Sagan tribute issue). The Skeptic Society, which publishes the newsletter, can be reached at P.O. Box ***33***8, Altadena CA 91001, Phone 1-626-7943119, Fax 1-626-7941301

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Dr. Richard A Muller is available to comment on the regular glacial updates of The Paleoclimatic creed at his Physics Mail-Stop 50-232, 50-5032A of the Lawrence Berkeley National Lab, 1 Cyclotron Road Mailstop, Berkeley, CA 94720, 1-510-4867430, 1-510-4866250

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Dr. Allen W. Archer is available to tell his fascinating story about rhythmites, the Carboniferous and Pangea at the Department of Geology of Kansas State University, Manhattan, KS 66506-3201, USA Phone: 1-913-5322244, Fax: 1-913-5325159.

Aleister Crowley`s all-time classic *Book of lies* (ISBN 0877285160) is currently carried by Samuel Weiser (Box 612, York Beach ME 03910-0612, U.S.A., Phone 1-207)-3634393, 1-800-4237087, Visa, Master Card and human souls accepted), and of course by Amazon.com. Written by the personal mentor and master of the co-founder of JPL, it is a very academic and scholarly example of how the most illuminated scientists write history.